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Institution list and qualifications:

Al-Baghdadi M: BDS, MSc, PhD. Oral Surgery Unit, Al-Noor Specialized Dental Care Centre, Iraqi Ministry of Health, Baghdad, Iraq.

Baad-Hansen L: DDS, PhD. Section of Orofacial Pain and Jaw Function, Institute of Odontology and Oral Health, Aarhus University, Denmark

Breckons M: BSc, PhD. Institute of Health & Society, Newcastle University, Newcastle-upon-Tyne, UK

Durham J: BDS, PhD, FDS RCS(OS), MFDS RCS. Centre for Oral Health Research & Institute of Health and Society. Newcastle University. Newcastle-upon-Tyne Hospitals' NHS Foundation Trust

Goulet J-P: DDS, MSD, FRCD; Faculty of dental medicine, Université Laval, Quebec, Qc, Canada

Lobbezoo F: DDS, PhD. Department of Oral Health Sciences, Academic Centre for Dentistry Amsterdam (ACTA), MOVE Research Institute Amsterdam, University of Amsterdam and VU University Amsterdam, Amsterdam, The Netherlands

List T: Department of Orofacial Pain and Jaw Function, Faculty of Odontology, Malmö University, Sweden and Scandinavian Center for Orofacial Neurosciences (SCON).

Michelotti A: BSBS, DDS, Orthod; Department of Neuroscience, Reproductive and Oral Sciences, Section of Orthodontics, University of Naples Federico II, Naples, Italy

Nixdorf DR: DDS, MS. Division of TMD and Orofacial Pain, School of Dentistry, University of Minnesota, Minneapolis, MN, USA.

Peck CC: PhD, MScDent. Faculty of Dentistry, The University of Sydney, NSW, Australia

Raphael K: BA, MA, PhD, MS. New York University College of Dentistry, New York, USA.

Schiffman E: DDS, MS. Division of TMD and Orofacial Pain, School of Dentistry, University of Minnesota, Minneapolis, MN, USA.

Steele JG: BDS, PhD, FDS. Centre for Oral Health Research & Institute of Health and Society. Newcastle University. Newcastle-upon-Tyne Hospitals' NHS Foundation Trust

Story W: BDS, MFDS RCS. Centre for Oral Health Research. Newcastle University.

Ohrbach R: DDS, PhD; Department of Oral Diagnostic Sciences, School of Dental Medicine, University at Buffalo, Buffalo, NY, US.

***Corresponding author**

Centre for Oral Health Research & Institute of Health & Society
School of Dental Sciences
Framlington Place
Newcastle University
NE2 4BW
UK
Justin.Durham@ncl.ac.uk
Tel: +44 (0)191 208 6000
Fax: +44 (0)191 208 6137

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Abstract

Self-management (SM) programmes are commonly used for initial treatment of patients with temporomandibular disorders (TMD). The programmes described in the literature, however, vary widely with no consistency in terminology used, components of care, or their definitions. The aims of this study were, therefore, to: construct an operationalized definition of self-management appropriate for the treatment of patients with TMD; identify the components of that self-management currently being used; create sufficiently clear and non-overlapping standardized definitions for each of those components. A four-round Delphi process with eleven international experts in the field of TMD was conducted to achieve these aims. In the first round, the participants agreed upon six principal concepts of self-management. In the remaining three rounds, consensus was achieved upon the definition and the six components of self-management. The main components identified and agreed upon by the participants to constitute the core of a SM programme for TMD were: education; jaw exercises; massage; thermal therapy; dietary advice and nutrition; and parafunctional behaviour identification, monitoring, and avoidance. This Delphi process has established the principal concepts of self-management and a standardized definition has been agreed with the following components for use in clinical practice: education; self-exercise; self-massage; thermal therapy; dietary advice and nutrition; and parafunctional behaviour identification, monitoring, and avoidance. The consensus-derived concepts, definitions, and components of SM, offer a starting point for further research in order to advance the evidence base for, and clinical utility of, TMD SM.

Introduction

The need and efficacy of initial, non-invasive, management for temporomandibular disorders (TMD) is long established (1, 2) and interest has recently increased in multi-modal and "tailored" approaches (3–5). A core part of non-invasive initial therapy is what is varyingly known as "self-care" or "self-management (SM)". Self-care or SM may be all that is required in those that are adaptive (copers) and self-motivated, or it may form part of a more complex multi-modal treatment plan (4).

A recent systematic review (6) examined TMD self-care and SM programmes and suggested grouping both under the term "SM programmes", thereby ensuring consistency with the wider SM literature (7). Story et al (6) highlighted the lack of an agreed-upon definition of TMD SM and constructed a study-specific definition for the review acknowledging its limitations.

Story et al (6) identified 15 randomised controlled trials up to 15th April 2016 that fitted their inclusion criteria. In these 15 studies there was heterogeneity in the components making up the SM programmes and also in the way the components were employed as behavioural change techniques. Although the SM components in the various SM programmes were not always employed in the same manner between studies, the most common groups of SM components were: jaw (muscle) exercises, relaxation, and posture training; relaxation strategies; education on TMD (and analgesia usage); self-monitoring advice for habits. The efficacy of SM as a stand-alone treatment was not established as it was usually the comparator treatment and was not compared to no treatment (or waiting list control), but the *intra-group* effect

sizes for SM seemed promising and ranged from 0.3 to 3.1 (Cohen's d effect size). Perhaps unsurprisingly Story et al called for a consensus-derived, operationalized definition of TMD SM in order to allow future research to: clearly articulate the (behavioural) interventions employed under each of the components of SM; allow clinicians/researchers design their own SM programmes and examine their efficacy.

This study aims to: 1) construct an operationalized definition of SM appropriate for the treatment of TMD; 2) identify the components of SM; 3) create sufficiently clear and non-overlapping definitions for each of those components through a Delphi process (DP) with international experts in the field of TMD. It was not our intent to create operationalized definitions for each treatment component within SM given: the diversity of implementation of the components; the lack of understanding of the systems/processes underlying the therapeutic responses to each component, and data on their individual efficacy.

Methods

Estimation of the number of participants required for a DP varies dependent on purpose and from the literature (8, 9) the minimum number of participants for this DP was set at seven; consequently, eleven international experts were initially invited by email to allow a one-third drop-out rate.

The eleven TMD experts (LBH, JPG, TL, FL, AM, DN, RO, CP, KR, ES, and JS) were identified from the literature and recent membership to international invitation-only TMD colloquia and workgroups. All had more than ten years' experience in the field of TMD, with most having greater than thirty. All those approached agreed to participate in the study.

The first meeting (round 1) was held face-to-face at the International Association for Dental Research's annual meeting (Boston 2015). The International RDC/TMD (Research Diagnostic Criteria for Temporomandibular Disorders) Consortium Network hosted the meeting. Eleven of the study authors attended the first meeting (MAB, MB, JD, LBH, JPG, FL, AM, RO, KR, ES, and JS) and no expenses or incentives were offered. All participants received study-specific documentation ahead of the meeting: brief summary of the recently concluded systematic review on SM (6); outline of the areas for discussion during the DP. The areas for discussion initially included: (1) constructing an operationalized definition of SM, (2) identifying the treatment components within SM, and (3) defining those components.

The first meeting was in the form of a focus group discussion, moderated by the first author (JD), and digitally recorded to allow crosschecking of the accuracy of the minutes on the definition of SM and its components (taken by

MB), which were then sent to all participants. All participants were asked to add further critique and revisions to the minutes document in an iterative process via email. The conclusion to each round was determined once all participants had added comments or indicated they had no further comments. Following each round, the first author collated all (responses to) comments, and made revisions to the document. Comments and responses were displayed in the evolving document so that when it was re-circulated, individuals could track responses and revisions. When the revised document was ready it was sent to all participants, drawing their attention to key areas requiring ongoing discussion, thereby signaling the start of the next round of discussions. This process continued until no new critique or comments were received (round four) on the revised document. All participants then helped construct and revise this manuscript as a final triangulation of the definition and components of SM emerging from the DP.

At the end of the process, SM programmes used by each participant were requested, translated to English where needed, and coded according to the SM components identified (MB coded, JD cross-checked validity) during the DP. The components of each participant's SM programme were summarized in a simple table to display the existing similarity in the written information on SM distributed to TMD patients by the participants' institutions.

Results

As is to be expected in an active, iterative, DP discussions and critique varied by round of the Delphi process and for the sake of clarity the presentation of

the consensus reached will be summarised in two broad sub-headings: principal concepts of SM; and definition of SM and the components comprising it. An overview of the content of each of the rounds of discussion of the Delphi process is shown in Figure 1.

Principal concepts of SM:

The first round of verbal discussions established and agreed the principal concepts of SM for the DP:

1. SM is a core part of TMD management.
2. SM is provided to the patient as a first essential step after diagnosis, but which can be built upon as necessary over time by different clinicians or specialities. SM is part of the continuing management of the patient with the intent that they will use it as needed throughout their life.
3. SM should be delivered verbally and supported with written information/instructions and should be appropriate for any clinical setting. Reinforcement might be possible using electronic media.
4. The decision over who delivers SM resides with the presiding clinician and the particular characteristics of the clinical facility where the patient is being managed. Since there is a therapeutic nature to the doctor/patient relationship (“therapeutic alliance”) (10), there are different models of provision. SM does not necessarily need to be delivered by a specialist or a clinician (5).

5. SM contains context-dependent education including: explanation, advice and reassurance (eg. Optimistic counselling). Such education can be provided, at least in part, even if a definitive diagnosis is not reached, and can include generic information on the nature of persistent pain and pain-related TMD subject to no ‘red flags’ being present, such as sensory or motor function changes etc.
6. SM can be reviewed to ensure comprehension and adherence. Follow-up could be face-to-face or by telephone contact. Further research is required to determine the optimum mode and time for review.

The definition of SM and the components comprising it took three further rounds to clarify and establish consensus with the group recognizing the difficulty in prescribing a gold-standard programme, or contents list for specific interventions under each treatment component of SM due to the paucity of evidence on the efficacy of one particular intervention over another. Instead, the group elected to define the core components of SM, which then would guide individuals as to the construction of future SM programmes and trials of particular interventions under each component.

Definition of SM and the components comprising it

The definition of SM proved difficult to construct due to the absence of data or definitions in the literature regarding SM (6). In contrast opinions on the components comprising SM were largely similar. The areas requiring most discussion to establish a consensus on a definition of SM were: the specificity of the aims of SM; whether intra-oral appliances could be considered a

component of SM; and whether analgesia (of any form) could be considered a component of SM.

The specificity of the aims of SM were a matter for extensive discussion because the need for SM to be applicable to any sub-type of TMD (11). For example, the aims of a potentially goal-oriented SM programme for a patient with limited mouth opening due to a disc displacement without reduction with limited opening was contrasted in our discussion to the aims of a programme for myalgia.

Over the period of discussion, it was agreed, however, that there were common, but generic, aims for all SM programmes. It was also agreed that these aims could be supplemented by further objectives and adjunctive modules (treatments) specific to the individual's presenting complaint e.g.: a more goal-oriented programme to address limited mouth opening. Similarly, the order of components in the SM programme should be tailored to the individual's complaint. The components of a standard core SM programme were therefore agreed through consensus as those shown in Table 1 and the final definition of SM was as follows:

SM programmes in TMD are a core component of management of TMD throughout its course. SM programmes are defined as a group of procedures that have a logical basis for therapeutic action in relation to the respective diagnosis for which they are recommended. The procedures comprising SM should be simple enough to allow patients to be readily instructed in their execution and to retain control of their execution. At the initial point of diagnosis, the patient should be given a core SM programme that can be built

upon over time, as necessary, dependent on the clinical findings and course. The core SM programme for TMD consists of the following components: education; exercise; self-massage; thermal therapy; dietary advice and nutrition; and parafunctional behaviour identification, monitoring, and avoidance. Each component of SM presumably has a different mechanism of action but in general the main aim of SM is to allow healing and prevent further injury to the musculoskeletal system. SM programmes should not focus solely on physical symptoms but should also adopt a biopsychosocial approach and facilitate a return to normal function. SM programmes rely on a therapeutic alliance between clinician and patient and therefore require patient comprehension, motivation, cooperation, active participation, and adherence as well as clinician commitment, monitoring, and titration. It empowers the patient to know that they have the innate ability to heal - and the clinician engaging them and training them to do SM facilitates this.

Intra-oral appliances were discussed in the first two rounds resulting in a consensus that these were a separate management technique to SM because SM without intra-oral appliances was efficacious and therefore did not mandate the use of an intra-oral appliance. It was noted during discussions that as part of the education in SM, patients should be fully informed about advantages/disadvantages (complications) of intra-oral appliances e.g. it is appropriate to advise caution regarding the use of over-the-counter intra-oral appliances if not prescribed by a dental professional (12).

Analgesia was discussed throughout all rounds, specifically in relation to prescribing simple analgesia such as non-steroidal anti-inflammatory drugs and over-the-counter (OTC) analgesia usage and their potential adverse

effects if used long-term. The consensus reached was that in SM, individuals should receive specific education on time-limited use of appropriate OTC analgesia as well as its potential to cause complications e.g. medication overuse headache and that the prescribing of analgesia is a different form of management to SM. The group acknowledged that in one study SM with medication had a better short-term outcome than SM alone for jaw muscle pain (13). This effect, may, however depend on the type of muscle pain (14) and medication's usage has the undesired potential for patients to believe that the medication, and not the SM, has reduced their pain.

The table in the supplementary e-appendix displays the components used by each participant's institution in their written SM documentation for patients.

Discussion

This DP has produced an expert-based standardized definition of SM and its components thereby providing a foundation for future research into the effectiveness of these recommendations. Each component of the SM programme was defined, but not operationalized (Table 1) in recognition that, if we consider various manners in which the components are implemented by just the members of this study (Table in e-appendix), we are currently uncertain whether there may be core elements of a given SM component that demand operationalization in particular ways. We also do not fully understand whether there is, for example, a systems process involved, such that any form of SM carries with it substantial psychological benefits that are perhaps more responsible for any therapeutic response. Consequently, we have intentionally

left the particular operationalization of the specific SM components open for discovery. At the same time, the present paper provides a framework by which the reporting and interpretation of trials utilizing SM programmes can be more carefully aligned.

The DP also highlighted significant gaps in the knowledge base on SM for TMD. Although it is widely accepted as a first-line efficacious management technique, there are sparse data on what interventions within each component of SM are most efficacious (6). Further to this, it is difficult to determine the modifications to SM required for particular TMD sub-types.

It is unlikely SM components exist as isolated forms of therapy; rather, self-regulatory behaviours, such as those underlying successful SM, exert effects at varying levels within the individual (15) and exert effects on overall pain processing. Dietary and nutritional guidance in TMD has been highlighted as an area of difficulty in TMD management (16) with recent improvements (http://tmj.org/common/file?id=179 last accessed 18th July 2016). There are, however, critical questions regarding dietary functioning left unanswered and may link to other pain disorder constructs for example should the patient adjust the texture of their diet for a period of time (and for how long?) in order to reduce their pain, or does chewing restriction encourage self-perpetuating fear-avoidance behaviour and therefore should we encourage graded masticatory exercise (17)? The anecdotal suggestion from this group was for recommending a review after two weeks to assess function and consider whether or not a graded return to normal texture foods as tolerated could be implemented, assuming that other SM components are concurrently being successfully implemented. Despite the absence of evidence it is likely that any

period of chewing restriction impacts beyond the observed respondent pain associated with mastication, highlighting the importance of better understanding each SM component's mechanisms and implementation.

Parafunctional activity raises different questions relating to SM and the implementation of what might be complex behaviour treatments. Reliable assessment of parafunctional activity and its role in TMD is a source of speculation and discussion (18–20). Recent advances have been made in to establish standards for parafunctional activity assessment and its potential role in TMD (21, 22). The role of the parafunctional behaviour identification, monitoring, and avoidance component of SM was discussed at length. Current evidence suggests that parafunctional activities must at least pervade through everyday life in order to play a role in TMD (21, 23). Simultaneously, other available evidence indicates a complex relationship between parafunction and pain (24–26). Consequently, one aspect of SM should be, therefore, to carefully evaluate the potential causal relationships between presumed parafunction and the patient's pain, and to proceed with the treatment aspect of this component of SM only with carefully gathered behaviour data and symptom reports. We suspect that other areas of SM, for example jaw exercises, will exhibit similar research questions and challenges. Prospective research would benefit by attending to these complex matters.

The preceding descriptions of different aspects of an SM programme illustrate that SM may not be as simple as it appears. In addition, many, if not all, of the components proposed here in the SM programme for TMD have little to no supporting evidence for their particular efficacy in TMD, and consequently we have little to no empirical guidance regarding how to best employ SM and for

which patients. For example when should we: use hot versus cold (and for what duration, and how many times a day); try to control parafunctional behaviours (and how do we do it reliably). Yet, this is precisely why this study was initiated: to standardize the concept of SM, identify all components of SM, and provide initial definitions. From this beginning, it becomes possible to conduct research that can systematically examine different ways of operationalizing SM components. For example, the SM component of parafunctional behaviour identification, monitoring, and avoidance assumes that it is possible for patients to identify and modify such behaviours within the context of the SM programme containing other components. However, because these waking behaviours are often difficult to detect (27), it may be premature to include the parafunction component into an SM programme in contrast to addressing these behaviours via formal therapy, by a mental health professional, including cognitive-behavioural therapy. If identification, monitoring, and avoidance can be done, does their modification exert a therapeutic effect proportional to the effort sometimes required of the patient in adhering to this part of an SM programme? From a clinical perspective this singular example points to the challenge for SM: initial diagnosis is only the starting point, and on-going evaluation and critical testing of clinical hypotheses must accompany SM if it is to be as successful.

In summary, this DP has established an international consensus regarding the principal concepts of SM and a standardized definition of SM and its components. Future research is required to examine the validity and applicability of these consensus-derived concepts, definitions, and components. Prospective research is required to evaluate cause-effect

relationships between presumed causative or contributing factors, patient's complaints, and their response to each individual component of SM and the whole SM programme. Future trials also need to investigate the efficacy of different types and/or techniques of particular interventions under each individual component of SM against each other for management of particular sub-types of TMD. This will help in developing evidence-based SM programmes and assist in establishing operationalized definitions of SM components. Furthermore, research needs to explore the best modes of SM delivery and SM review including the appropriate time of SM delivery and proper period to review SM therapeutic outcomes as well as the use of electronic reinforcement of SM.

Conclusion

A standardized definition of SM and its components is now available for use in clinical practice. This definition and the principal concepts of SM agreed during the DP should allow the evidence base to be expanded in a more homogenous, comparable, manner in order to advance the science behind SM of TMD.

Disclosure and Acknowledgments

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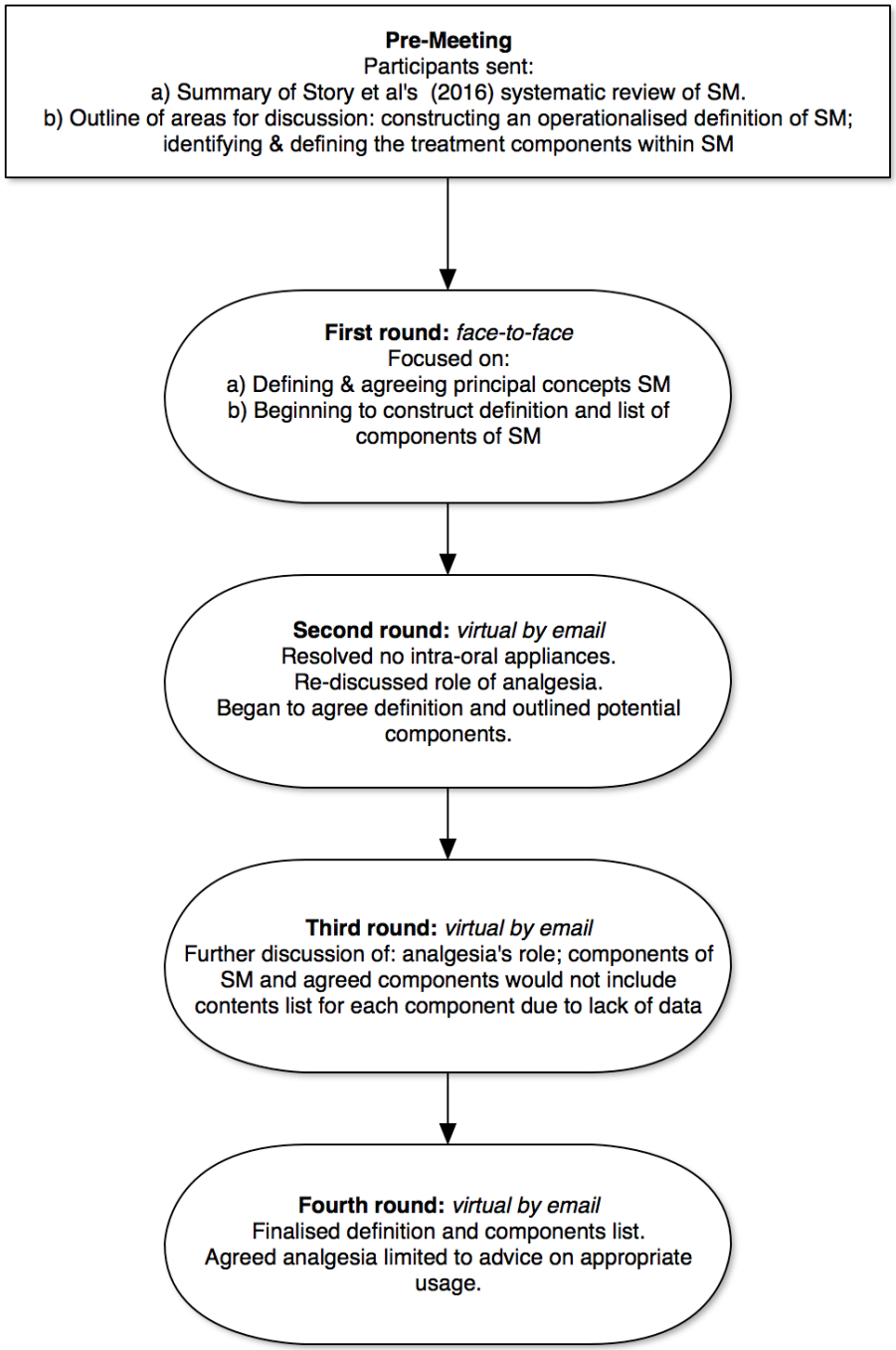
Figures

Figure 1 – Flowchart of rounds of the Delphi process summarising key actions at each round



Key: SM – Self-management

Tables

Table 1 – Components of standard core SM programme

Component	Agreed definition of component
Education	Education pertains to diagnosis and generally favourable prognosis ("optimistic counselling"), when appropriate, and it includes reassurance that TMD is typically a benign group of conditions and self-limiting in the vast majority of cases, but can fluctuate in symptomatology. This education should also include TMD's biopsychosocial aetiology and its limited sequelae in the twelve most common sub-types* and cautions against invasive and irreversible treatments. Other areas of education where basic information should be included are: sleep practices; sensible and time-limited use of analgesia; avoidance of OTC splints bought without consultation with dentist; caffeine usage; "doctor shopping"; anatomy and usual function of TMJ complex and associated musculature. For example, making the patient **aware** of the masticatory anatomy and why it is painful; and also clicking sounds and why it is a painful click ensuring patients do not become hypervigilant or "play" with their lower jaw to constantly check for TMJ noise; warning against extensive occlusal adjustments and invasive interventions without clear-cut, objective signs of TMJ pathology. In definite, predominant, arthrogenous complaints surgical interventions should be explained in a neutral manner explaining their risks, the poor evidence base, and the fact that they are not proven to be superior to simple, non-invasive interventions, which carry fewer risks.
Self-exercise therapy	This was not labelled as physical therapy as the participants felt that "exercise therapy" or "physical therapy" would be misleading. The focus in SM is on self-applied exercises by the patient versus manual therapies performed by health care professionals. Exercises can be implemented by the clinician or by referral to other health care professions including physical or occupational therapists.
Thermal modalities	Use of heat and /or ice to areas of pain.
Self-massage therapy	Massage is limited to the anatomic location of the painful or tense affected masticatory muscles (most easily accessible to palpation are masseter muscle and temporalis muscle)
Diet and Nutrition	Specific nutritional advice is available in the Temporomandibular Joint Association's (TMJA) guide to nutrition freely available online. Another aspect of this pertains to chewing restriction, which is to be phrased as a "pain-

	free diet", as opposed to a "soft diet", with the recommendation that it be implemented for a two week period, following which a review determines whether the individual advances as tolerated to firmer and chewier consistency foods. This was phrased in this way because of concerns of misinterpretation and therefore prolonged use of a soft diet.
Parafunctional behaviour	This component should orient the patient towards identification, monitoring, and avoidance of any parafunctional behaviour that exacerbate their pain. It was agreed that all three elements are important as far as definition for an SM programme is concerned. The therapeutic boundaries of this component in terms of self-identification of behaviours and control via avoidance, versus formal Cognitive Behavioural Therapy (CBT) (for example), are yet to be determined.

* Twelve most common types of TMD: Myalgia; Local myalgia; Myofascial pain; Myofascial pain with referral; Arthralgia; Disc displacement with reduction; Disc displacement with reduction with intermittent locking; Disc displacement without reduction with limited opening; Disc displacement without reduction without limited opening; Degenerative joint disease; Subluxation; Headache attributable to TMD

Supplementary e-appendix

Table: Self-management programmes by clinical setting

The core written information from the clinical setting at each institution is summarized below. Core written information was selected as a proxy for the most important information that clinicians regard as needed given the known difficulties patients face when recalling verbal information following consultations (Patel et al 2008; Thickett et al 2006; Thomson et al 2001). Participants in the Delphi process contributing data to this table elucidated on their practice further by explaining that dependent on the sub-diagnosis of TMD further detail may be added in either written or verbal format. For example, anatomical information regarding the disc condyle relationship may be added for patients with disc disorders, but it would be omitted for those with myalgia.

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Education	X	X	X	X	X	X	X	X	X	X
You are the key to reducing your symptoms (the most important part of the treatment is you). You can help yourself to manage your symptoms by following the suggestions in the leaflet.		X						X		
Remember to adapt your management strategies for how your everyday look and not vice versa. It is important that your own treatments are as simple as possible for you to "take them" where you need to be, for example at work, in the company of friends, or when you are sleeping.					X					
Basic information about: - TMJ anatomy						X				
- TMD common subtypes		X				X		X		
- Prevalence						X		X		
- Signs and symptoms		X				X		X		
- Diagrammatic illustrations of TMJ-masticatory muscles complex		X						X		
- Benign and self-limiting nature and favourable prognosis						X		X		
- Multi-factorial aetiology		X			X	X		X		
- Available simple non-invasive therapies such as splints, physiotherapy, and behavioural therapy.								X		
- Cautions against invasive and irreversible treatments such as occlusal adjustment and TMJ surgery								X		
- Visit the TMJ website (http://www.tmj.org/Page/34/17) for more information on TMD.				X						
- Identify your jaw joints: Carefully place the index and middle finger tips of each hand directly in front of each ear, temporomandibular joint is now directly under your fingers. You can feel their movement when you open and close your mouth, if you do not feel the temporomandibular joint moves, change the position of the fingers and try again, Note if the light pressure of a fingertip causing pain in the jaws, on one or both sides.					X					
- Identify the large masticatory muscles: A) Cheek muscles (masseter): Keep your hands close to the sides of your face, tilting it backwards so the fingertips pointing slightly back towards the ears, place all four fingers toward the lower jaw on each side of the face with the finger at the same level of your lips, gently press your back teeth together to be able to feel the thick masseter muscles, used when chewing. Note whether the pain occurs on one or both sides, when you compress your back teeth or when you press lightly with your fingertips. B) Temporal muscles (temporalis): Place your fingers against the temples over and above the ears, bite gently (clench) to feel the movement of the fan-shaped temporal muscle. Note whether the light pressure of the fingers causes pain on one or both sides.					X					
- Measure jaw opening capacity: Use Therabite ruler found in your manual, place the end of the ruler with a depression (hole) in the center of your lower front teeth. Now, open your mouth as much as possible until just before it hurts. Note the number on the ruler next to the edge of the maxillary incisors and type it in your personal protocol.					X					

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Advice and instructions *Relaxation and de-stress instructions:* - Maintain the proper resting position for your jaw: Keep your tongue up (i.e., the tip of the tongue lightly touching the palate 'without pressure' behind the maxillary anterior teeth by saying "n"), lips together and relaxed, teeth slightly apart, and jaw dropped and jaw muscles relaxed (by saying "m") when the jaw is not functioning (your upper and lower teeth should only touch lightly during eating, swallowing, yawning, and sometimes talking) and use remainders (e.g., alarm clock or timer ring) to monitor your jaw position regularly during the day (check every 5-10 minutes or every hour). For proper tongue resting position: Place the tip of the tongue behind the front teeth in the lower jaw and relax the tongue (i.e., the tongue is relaxed on the floor of mouth behind the lower front teeth).		X	X	X	X	X	X	X	X	X
- Relax your facial and jaw muscles: Place your hands gently on the sides of your face and let your cheek and temporal muscles as well as the muscles in the forehead and around the eyes to relax.					X					
- Do not test (play) your jaw by periodically moving your jaw around (i.e., open and swing the jaw from side to side beyond the comfortable range of motion to the point where you produce pain and discomfort) to check whether you are making progress and to see if the pain/discomfort is resolving.									X	X
- Do not deliberately provoke jaw sounds by open wide, stretch or bring the lower jaw from side to side. Sound from the jaw when chewing or yawning is normal and it is nothing to be worried about and it does not mean that you should avoid talking, chewing, …etc.					X					
- Avoid overstretching your jaw muscles and joints by wide mouth opening (e.g., during yawning, screaming, or singing) or side-to-side or forward (outward) extreme jaw movements. When the jaws are used during the day, open jaws just as much as you feel no pain (avoid opening your mouth wider than two fingers).	X	X	X	X	X	X	X		X	X
- Avoid prolonged dental treatment sessions that require keeping your mouth open for a long time, if possible, until the TMD pain has been reduced or eliminated.						X	X			
- Control yawning Support your jaw during yawning: Place your index finger and thumb on your chin to provide some extra stability to the lower jaw during yawning; or place your hand, formed into loose fist, beneath jaw and using back pressure from loose fist to slow the yawn and counter (limit) excessive opening. Otherwise when you feel like yawning, you can control yawning by putting the tip of your tongue against the top of your mouth and let your mouth open as far as it can without letting your tongue off the top of your mouth to limit the opening.			X			X	X			X
- Use stress balls to reduce stress							X			

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
- Learn and practice relaxing abdominal breathing exercise (to reduce daily stress and pain can be done anywhere, anytime, sitting or standing or lying): Description: Relax and sit in a comfortable position in a chair with your head, back and arms supported, legs restfully positioned, lower your shoulders, let the lower jaw hanging, put the tongue behind the front teeth in the lower jaw, say a "ah" sound, and close your eyes (if you like). Place your hands on your abdomen beneath your rib cage. Take a deep breath (inhale deeply and slowly through the nose and into the stomach) from your abdomen, send the air as low and deep into your lungs as possible (note, if you are breathing from your abdomen, you should feel your hand rise, rather than your chest). Hold your breath for 2-4 seconds, and then breathe out (exhale) and relax releasing all the tension felt in the area of your shoulders and jaw and let them sag (you may choose a word that makes you think of relaxation, such as "quiet"). Repeat 10 repetitions, 1-2 times per day. OR: Practice conscious breathing: Lie down on the floor, on a cushion, with your legs slightly apart. Let your arms rest comfortably at your sides. Close your eyes. Fix your attention on your breathing and place your hands on the point that rises and falls most when you breathe in and out. If this point is on your chest, it means that you do not use the lower part of your lungs. People who are nervous / anxious tend to breathe many short, shallow breaths in their upper part of the chest. Place both hands gently on your belly and follow your breathing. Notice how your abdomen rises with each inhalation and falls with each exhalation. Allow yourself to breathe through the nose. Blow your nose before you do the breathing exercise. Moves your chest in harmony with your stomach or not? Study your body for tension, especially in your neck, chest and abdomen. You must not fall asleep. OR: Lie down on your back, place one hand on your chest and the other on his stomach. Do not cross-legged, but let them be straight, or slightly apart, knees bent and feet flat on the floor. Inhale slowly through your nose. Feel the breath moving through your chest when your hand is lifted. When the breath reaches the stomach pressure stomach slightly upward toward the ceiling as you complete your inhalation. Let your hand on your stomach get a little higher than the hand on your chest. Hold your breath for a few seconds and then turn the process, let the air fit back through your chest and nose. When you breathe out, feel how your muscles relax. Make sure your jaw is not compressed. Focus on this breathing process for 10-20 minutes, 2 times a day. Your body will let you know when you are comfortable with this breathing, and you will soon be able to start automatically as soon as your body becomes tense with pain and stress. You may also develop the ability to passive concentration on your deep breathing. Passive concentration means focusing on what you do, but in such a way that you notice yourself comfortable. In other words, you should allow yourself to breathe deeply, rather than forcing yourself to breathe just right as it says in the leaflet which can only be counterproductive. You can rate your level of anxiety on a scale from 0 to 10 before and after breathing exercise	X	X	X	X	X	X		X	X	
- Illustration of a square model to practice deep breathing exercise and diagrams to help understand the relaxation breathing exercise.					X					
- Explanation of persistent (“chronic”) pain and vicious cycles of TMD pain and role of ‘stress’ (via a short video by the Australian Health Care System “Understanding Pain: What to do about it in less than five minutes” https://www.youtube.com/watch?v=C_3phB93rvI and diagrammatic illustrations).						X		X		

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
- Reduce your pain by managing your stress: By knowing the role of stress in TMD and understanding stress reactions and realizing prolonged stress response effects on TMD pain, you can minimize the domino effect caused by stress and pain by learning how to deal with the parts of your life that creates tension. Learn to how identify your typical stress patterns (physical stress and mental anxiety) and stress relation to your pain in order to start get the stress out of your daily routine through daily, regular practice of one or more of the techniques designed to get your body to relax so that you can manage your pain and stress better.					X					
- Acknowledge your stress: Realize occupational and emotional stress - listen to your body. Practice mindfulness to improve wellbeing (visit the link below for further information: http://www.nhs.uk/conditions/stress-anxietydepression/pages/mindfulness.aspx).	X				X			X		
- Avoid stressful commitments and limit prolonged stressful situations (e.g., by work) as much as possible and try to develop alternatives ways to deal with life's challenges. Various factors can lead to stress such as work, family, personal circumstances or other stress factors like feeling anxious or tense or depressed. Pay special attention to relaxation during activities of which you know you will find it difficult to relax (e.g., during sports, when you experience stress, or when working behind a computer). Control your pain and stress level by taking on your thoughts and feelings, by identifying negative self-images which are part of the pattern of your behavior.		X			X	X				X
Life-style change: - Discuss and change your lifestyles and attitudes to deal with your frustrations and depression as well as physical pain.						X				
- Walk for 30 minutes, 3 times per week.			X							
- Exercise daily for 30 minutes a day, 5 times a week, preferably Aerobic exercises.			X	X						
- Try relaxation, body massage, physiotherapy, acupuncture, yoga, …etc.	X									
- Avoid smoking tobacco (to quit smoking, see your practitioner or speak to an expert smoke-free advisor or visit the following website: www.nhs.uk/smokefree/help-and-advice/support).	X							X		
- Avoid cold, wind, and wet							X			
Posture training: - Sit up straight and keep your head straight and held high and supported (avoid forward head posture) and your chin in and keep your shoulders lowered and relaxed and avoid straining your head, neck, and shoulders muscles through poor posture. Watch your posture and check every 5-10 minutes.	X	X	X	X	X	X		X		
- Avoid leaning on your chin or jaw at any time and avoid resting your jaw on your hand or pressing your cheek or chin on your hand or fist.				X	X	X	X			X
- Avoid posturing your head to hold (squeeze) the telephone between your neck and shoulder.					X		X	X		X

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Sleep practices: - Relax and get adequate sleep and manage your sleep environment (sleep advice: relax as much as possible before bedtime, avoid heavy meals, caffeine contained drinks, and alcohol in the evening, have a good bed and a well-ventilated room, reduce light and noise, lie on a comfortable mattress, reduce stimulating mental and physical activities in late evening 'around one hour before bedtime' like computer work and exercising, sleep away from children one night a week at least if possible, avoid spending too little or too much time in bed, do not use alcohol as a "nightcap" to solve the problem of insomnia). For more information on treatment and self-help to poor quality sleep or poor sleep habits visit the following website: www.nhs.uk/conditions/insomnia/pages/treatment.aspx).	**X**	**X**			**X**	**X**		**X**		**X**
- Avoid sleeping on your stomach. Instead sleep on your sides or back.						**X**				**X**
- Avoid sleeping positions where the jaw is rested upon a hand or arm.										**X**

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Self-exercise *General practicing advices:* • Practice the exercises below in front of a mirror to see how your lower jaw moves. • As a common practice schedule: Repeat any of the below movements 5-6 or 10 consecutive times for 1-3 or 4-6 times a day. • Link the exercises to an activity that you perform daily at fixed times (e.g., teeth brushing in the morning and evening). Relax your jaw after each exercise. You may apply heat or cold packs to jaw muscles and/or massage the muscles before or after the exercise. • You may experience mild transient pain during these exercises, but they should not cause long-lasting pain. If you notice pain when you do exercise, be careful and do not increase the repetitions and if you are worried about the consequences, finish the exercise and get in touch with your practitioner. • Your practitioner will demonstrate the exercises to you and will recommend the most suitable exercises for you to perform from the list below:	X	X	X	X	X	X	X	X	X	
Exercises ('not-specified' as indicated by your doctor and/or physiotherapist)									X	
Jaw jogging exercise Description: move your relaxed jaw small movements up and down and from side to side but without teeth contact.	X				X					
Relaxation opening exercise Description: Slowly open your mouth as wide as possible but without any pain or strain sensation, hold open for 5 seconds, and then slowly close and rest for 5 seconds. OR: Relax, put your tongue against the teeth and palate, and grasp your chin and then try gently open and close your jaw in a reasonable pace for ±20 seconds. OR: Place your hands on your face with long fingers on the jaw. Relax your muscles and open your mouth as much as possible without pain or effort. Hold this position for 6 seconds by counting to 6. Then close your mouth halfway (right before your teeth touch each other) and rest for 6 seconds. Remember to keep your muscles relaxed and continue to breathe.		X	X		X					
Lateral exercise Description: Move your lower jaw as far as possible to one side and then back, focus on one side at the time.					X					
Protrusion exercise Description: Move your lower jaw as far forward as possible, and then back.					X					
Opening exercise with pain Description: Slowly open your mouth until slight sensation of pain or strain appears (i.e., the point where you feel the beginning of tension in front of the ears in the joint area) and keep your mouth open in this position for 5-10 seconds and then slowly close your mouth and rest for 5-10 seconds. Open a little more each time you exercising while not causing too much pain or discomfort.			X	X						
Lateral canine-canine exercise Description: Interpose a plastic tube between the front teeth, bringing your index finger to point to your canine tooth and move the jaw towards the same side slipping on the tube and completing the movement when the lower canine touches the same finger. Repeat all the exercise on the other side, and switch these movements to 6 times at intervals of 6 seconds 6 times a day.							X			

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Strengthening exercises: (exercises against resistance to strengthen jaw muscles) - Resistance opening exercise Description: Start with your jaw in its comfortable rest position with your teeth slightly apart, open your mouth about two fingers and opposing the opening movement with hand fingers or fist placed under the chin, resisting opening at this end position and maintain the upward pressure on the lower jaw for the count of 5-6 seconds, then close and relax.	X				X		X	X		
- Resistance closing exercise (used for patients with hypermobility or limited opening) Description: Open your mouth wide, place your fingers on the front teeth of the lower jaw, then try to close your mouth while holding back with your fingers the jaw closing by providing resistance with the pressure of the fingers, keep your lower jaw at the end position for 5-6 seconds, then relax.	X				X		X			
- Resistance lateral exercise Description: Push the lower jaw to the side while holding it back with one hand, maintain pressure on the lower jaw and hold for 5-6 seconds at the final position, then relax. Repeat movement on the opposite side.	X				X		X			
- Resistance protrusion exercise Description: Push the lower jaw forward while holding the chin with your hand and press the lower jaw into your hand for 5-6 seconds at the final position, then relax.	X				X		X			
Stretching exercises: (exercises to stretch jaw muscles for patients with reduced mouth opening) - Stretching opening exercise with fingers Description: Open your mouth and place your index fingers on the teeth of lower jaw and your thumb on the teeth of your upper jaw and stretch gently your mouth a little further by pressing your fingers against the front teeth of the upper and lower jaw (i.e., squeeze the jaws apart) without feeling intense pain (if painful, stretch with less force) and keep or hold the mouth in this position for 5 or 15-20 seconds, then relax (or close half-away your maximum mouth opening). OR: Place one finger between your teeth for one minute (rest, repeat). Then place two fingertips between your teeth for one minute (rest, repeat). Note: Initially, you can rest your fingertips on your upper and lower front teeth to do this stretch. After you have “mastered” relaxing your jaw, you may get a better stretch if you relax your jaw and do the stretch without touching your fingertips to the lower teeth. In the latter situation, it is up to you if you touch your upper teeth with your fingers but try not to touch the lower teeth. Do not do stretch your jaw more than two fingertips width.	X	X			X	X				
- Stretching opening exercise with tongue depressor Description: Open the mouth fully and maintain the mouth open position for at least 10 seconds. If you have a lot of trouble keeping your mouth open at most, help yourself using your fingers or a tongue depressor/spatula (gradually increasing the number of tongue depressors over time to try to reach your original amount mouth opening before the start of your TMD).							X			

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
- Stretching opening exercise with jaw trainer Description: Place the jaw trainer between your teeth, preferably between your front teeth in order to achieve as balanced training of both sides of your face as possible, hold the jaw trainer and press with moderate force 10 times in a row, continue and press additional times, but now with maximum force, with the help of your jaw trainer, keep your jaw at the end position for 20 seconds, then relax before the pressure is repeated.					X					
- Stretching lateral exercise (sideways exercise) Description: Starting from the closed mouth position, unlock the teeth slightly and move the jaw alternately to the right and to the left as possible. For the sideways movement to the right side, place the thumb of your right hand on your right upper canine and place index finger of the same hand on your lower left canine, move your lower jaw to the far right, push with your finger gently the lower jaw slightly more and keep aside at this position (maintaining the position of laterality) for 6 seconds without feeling intense pain (if painful, stretch with less force), then relax the lower jaw and move it back to the middle. Then perform the exercise for the lateral movement to the left side with your left hand, where you thumb on the upper left canine and the index finger on the right lower canine place.		X					X			
- Stretching neck muscles exercise Description: Place chin at the centre of the chest, keep chin in this position and tip top of head to the side until pulling is felt in the back of the neck. Hold stretch 15 seconds. Next tip head to the opposite side and hold 15 seconds. Repeat this side-to-side stretch 5 times. Very slowly, return head to upright position. You may apply heat or cold pack to back of neck and base of the skull when stretching these muscles as described.			X							
Masticatory muscles relaxation exercise Description: Let your jaw relax (i.e. drop/sag jaw), do not try to actively open your mouth, just let your jaw relax, take a slow, deep breath as you push the inside of your fingers or palm of your hand gently, but firmly, against your jaw (masseter) muscle. The force you use should not be painful. Pull down gently as you let your fingers and/or palm of your hand slide slowly down along your jaw muscles and at the same time let your breath out slowly. Repeat this exercise whenever you feel your jaw tense. You can do this exercise on any muscle you find it useful including the jaw muscle over your temples.						X				
Head and neck relaxation exercise Description: Lie on your back (easiest), or sit with your head supported, or sit without head support (hardest), observe your breath and keep breathing during tightening and relax when you exhale. First, pull your shoulder blades toward each other and release twice, pull your chin to your chest and release twice, put your teeth together and release twice, push your tongue against the palate and press the lips together and release twice (If one of these body parts are still tense, repeat the exercise). Second, tighten your shoulders, neck, jaw, and tongue at the same time and release twice (If one of these body parts are still tense, repeat the exercise). Third, focus on your shoulders, think back to the feeling of relaxation in the shoulders that you had immediately after the relaxation exercise so that you can regain that relaxed feeling. Move the attention of the shoulders to the neck, jaw, and tongue. Apply this technique now at activities in your daily life. If this is not sufficient, tighten and relax the affected areas again.		X								

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Symmetry or coordination exercises (to help learn smooth and protective jaw opening and restore proper opening movement of the jaw) Description: Either: Open and close using a mirror on which a vertical line was drawn and during the movement check that the centre line of the incisors corresponds to the marked line on the mirror. In case of deviation of the opening position, the tip of the tongue should be placed at the top of the mouth on the opposite side to the deviation in movement of your jaw. OR: In front of a mirror, place your fingers over your jaw joints, and curl your tongue backwards to the roof of your mouth, by keeping your tongue in this position open your mouth slowly and smoothly (you should only feel a rotation in the joints as your jaw opens) and make sure you watch in the mirror checking that your jaw opens and closes in a straight vertical line avoiding any sideways movement/deviation. OR: Place a toothpick between the front teeth in the lower jaw, draw a line on the mirror, open and close while the toothpick follows the line, also slide the lower jaw back and forth without the toothpick goes either way.	**X**						**X**	**X**		
Restricted opening 'rotation only' exercise (for shortened range chewing and for patients with hypermobility) Description: Place the tip of the tongue gently on the palate (the top of your mouth where you say "n") and/or place your index fingers on your jaw joints, open and close your mouth slowly while the tip of the tongue constantly in contact with the palate and monitor the position of your TMJs with your index fingers over the TMJs and stop opening if you feel the condyle ("ball") of the joint(s) move forward against your fingers, now open and close your mouth slowly without your jaw joints moving forward. This exercise should require you to open about 2 finger widths, not more.	**X**				**X**	**X**	**X**			
Relocation exercise (for patients with subluxation) Description: If your jaw locks on opening (dislocation) remain calm and do not attempt to close your mouth immediately, instead relax and help yourself with your hands to bring your lower jaw downwards (still trying to open wider) and then try to go back to the closed position.							**X**			
Guided opening exercise for hypermobility Description: Learn how wide you can open your mouth without ending up with your jaw in an open locked position, in other words avoid opening your mouth as wide as you can using the adjusted wooden spatula as a guide for your jaw opening.					**X**					
Training opening exercise without clicking (to avoid clicking) Description: Place the index and middle finger over your jaw joints on both sides, and open and close your mouth and notice any clicking sounds. Now open your mouth without hearing any clicking sounds from your jaw joints.	**X**				**X**					
Training protrusive-opening exercise without clicking Description: With or without placing the index and middle finger over your jaw joints on both sides, move your lower jaw straight forward and open and close your jaw in this forward position without clicks.	**X**				**X**					

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Disc recapturing exercise Description: Open your mouth until the opening cause noise, move your jaw forward (only in this position should be started the exercise) and insert the plastic tube between the front teeth. Maintain the tube between the teeth and from a position of incisors edge-to-edge, move your jaw forward with the jaw clenching on the tube; still clenching the tube move your jaw backward as much as possible (if at this stage you hear the noise stop exercising). Finally, open your mouth and repeat the exercise for 6 times at intervals of 6 seconds, 6 times a day.							X			
Joint distraction exercises: - Vertical distraction exercise Description: Place your thumb (of the right hand for left joint and left hand for the right joint) on the lower molars corresponding to the joint that should be distracted. With the thumb in this position, exert a slight pressure on the most posterior teeth pushing down, in order to obtain a joint vertical distraction. The movement has to be very small, given the size of the joint, and must be checked by placing the index finger of the other hand on the joint that has to be extracted.							X			
- Sideway 'lateral and/or medial' distraction exercise							X			

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Thermal modalities	X		X	X	X	X	X			X
Apply moist heat for non-acute 'chronic' conditions (for pain reduction and muscle relaxation) Place anyone of the following (a warm bag, a warm compress, a hot water bottle wrapped with a warm damp towel, soak towels in hot water, heated soak towels in microwave oven, hot and humid sponge, moist heating pads, uncooked rice in a plastic bag heated in a microwave and wrapped in a warm wet towel, commercially available gel packs wrapped with a warm damp towel/clothe in order to create moist heat, or a towel draped over the painful area and let the hot shower hit the towel) over the 'painful' side (or both sides) of your face (e.g., covering the sore areas over cheeks and temples) or neck for 15–30 minutes, 2-4 times a day, preferably in the morning and evening during the next weeks until the muscles pain and spasm decreases. The heat treatment should feel very warm but comfortable. Never allow skin to get so hot that it is painful or that the skin gets red. A dry heating pad is okay, but most people feel that moist heat is better.	X		X	X	X	X	X			X
Apply cold for acute conditions (for severe pain and swelling reduction) Place anyone of the following (an ice pack, a bag of frozen peas or corn or rice, an ice cube placed in a ziplock bag, a cold pack wrapped in a dry cloth or a thin towel, a refrigerated water in paper cup, or a commercially available gel cold packs) over the 'painful' side of your face or neck for 5-20 minutes, 2-4 times a day, preferably in the morning and evening during the next weeks until the tightness of muscles and pain decreases (If you have an acute injury or if the pain has recently begun, you should apply cold to the area every hour or two for the first 48 hours or so after injury). The ice may initially give you a "burning" sensation - this is normal. Keep the ice on the painful/sore area only until you first feel some numbness, then remove it. Never apply ice directly on your skin, always use a paper towel or thin cloth next to your skin. Do not exceed cold application for more than 20 minutes at one time to avoid damage to the skin.	X		X	X	X	X	X			X
You may try using contrast treatments (i.e., moist heat immediately followed by cold or vice versa) Apply moist heat for 10 minutes to the painful muscle, then stroke an ice cube across the painful areas for a few seconds, then warm with the hand or the moist heat pack, repeat with the ice cube, then warming again. Some patients feel that they get more relief by heat and others prefer the cold and some think it will help best if they apply heat and cold one after another. It is best to try all the three methods (that is, just chill, just heat, or to switch between heating and cooling) to determine which method works best for you.			X		X	X				
Never use heat or cold over areas that are numb or that have a poor circulation, or over open wounds.			X							

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Self-massage	X	X		X			X			
Massage the 'painful' areas on the temples and cheeks with firm pressure in a circular motion (like applying a cream) by the fingers of the palm for 20-30 seconds or 1-5 minutes for each muscle, 2-3 times a day, preferably in the morning and evening during the next weeks.	X			X			X			
Stretching massage of the masseter muscle (cheek) Description: Place your thumb finger of the contralateral hand inside the mouth proceed from the top down, by stretching the muscle towards the outside. OR: Place your thumb on the inside of your cheek and bite for a moment on your teeth until you feel tightening the muscle belly of your masticatory muscle. This is the area where to massage the muscle. Relax your jaw and slide your thumb up and down on the muscle belly and push your thumb gently outwards with the fingers of the same hand guides you through the move to the outside of the cheek (if painful, carry out the exercise with less force). Perform this exercise for approximately one minute for a number of times a day during next weeks.		X					X			
Diet and Nutrition	X	X	X	X	X	X	X	X	X	X
Eat 'pain-free' soft diet and avoid hard, coarse, crispy, crunchy, or soft chewy foods that require excessive or prolonged jaw movements for 'one' week and then gradually resume more normal texture foods as tolerated (usually within 2-4 weeks). Do not chew gum.	X	X	X	X		X	X	X	X	X
Avoid biting coarse, hard foods with the front teeth and cut these foods up into small pieces and eat them on the back teeth.					X	X	X		X	X
Do not stay on a soft diet too long by periodically increasing the consistency of your diet as tolerated. Discuss the details of your diet with your doctor periodically. The closer you follow these suggestions to help rest and heal your jaw and muscles, the sooner you will be able to gradually resume your normal diet.			X			X		X		
Take small bites to avoid overly open mouth and chew slowly.			X	X	X		X			
Chew your food on both sides of your mouth, either alternating or at the same time.			X			X	X			X
If your jaw joint hurts, then chew on the painful side.		X								
Avoid caffeine "has alerting and muscle tensing effects" contained in all sources (coffee, tea, chocolate, soda, cola and some energy soft drinks, and some aspirins). Instead, you may take decaffeinated drinks (decaffeinated coffee typically has half as much caffeine as regular coffee).	X	X	X	X		X		X		
Take Calcium available in many sources including dairy products and certain vegetables. Supplements can be used in the 1200 mg per day range.						X				
Maintain good nutrition and well-balanced 'healthy' diet of protein, carbohydrates, and fat, with vitamins and minerals (illustrated in a food guide pyramid figure and suggested in a pain-free food table).			X							X
Instructions on how to perform soft but tasty food: Eating perform many functions (everything from survival to enjoyment) and it is important that you also will be able to enjoy the delicious flavors of food (foods must be soft, but not necessarily tasteless). Discuss with your therapist how you can solve this potential problem. Problem solving sometimes requires creativity and it may be good to have a discussion partner. Your creative imagination, a food grinder or blender may help you prepare meals palatable for anyone.			X		X	X				

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Parafunctional behavior	X	X	X	X	X	X	X	X		X
Self-observation: Be aware of wrong habits that you may have developed unconsciously and try to avoid any common oral habits or activities that put strain on the jaw muscles and neck or overload the joints such as: teeth clenching, teeth grinding (bruxism), teeth gritting, teeth tapping, teeth touching or resting together, lips biting, tongue biting, cheeks biting, nails biting, jaw or tongue thrust, chewing gum, unilateral chewing, sucking hard candy, biting cuticles, biting or chewing objects or holding a pencil, pen, pipe, or other objects between lips or teeth, jaw muscles tensing, jaw bracing, jaw continually positioning forward or sideways, shoulder shrugging, neck tensing, and other activities like overextended yawning, prolonged dental treatments, oral sexual activities, bad posture habits like resting your jaw on your hand, leaning on chin, or holding telephone by leaning position, poor sleeping habits like stomach sleep, poor eating habits like over-chewing or eating hard food, splint habits, excessive (or lack of) sport exercising, excessive singing, or playing musical instruments that strain the jaw.	X	X	X	X	X	X	X	X		X
Breaking jaw and mouth habits: Remind yourself to check regularly to see if any of the above oral habits or activities are present through reminders such as stickers or timers. If noticed, these habits should be replaced with positive habits such as correcting your jaw position by tongue-up position. You may do the following: Insert the stickers at the places you watch frequently. You know where that might be, but some examples are mobile, computer, TV, car, somewhere in the kitchen or the bathroom. Every time you see a sticker, think about your attitude and what you do with your jaws and how you hold your jaw. Also note that the teeth should not be together. Tone the letter "m" and put the upper and lower jaws at a suitable distance without teeth contact. If you noticed that you are pushing your tongue against your teeth or palate, you can tone the letter "a" instead. Then fold the tongue at rest in the lower jaw. If you are careful to carry out these exercises to reduce tension in the jaw muscles, you will teach your brain to feel when you strap the jaw muscles and automatically relax the jaw muscles.					X	X		X		
Notice if any of the above oral habits or activities most often occurs during: driving, studying, reading, social situations, conversation, fatigue, overwork, stress, emotional upsets, work, sports.										X
Identify events that trigger the pain and use a pain diary to review daily activities that aggravate the pain, and modify your behavior accordingly. Recognize your symptoms' patterns, postures and other activities that contribute to your symptoms and write them down in order to help you act against the negative impact of your TMD.					X	X				
Behavioural modification techniques of common wrong habits by awareness of old bad habits and knowledge or education, learning, and practicing new desired habits.						X				

Component	Clinical Setting									
	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10
Other components	X	X	X	X	X	X	X	X		X
Medications:										
- Take over-the-counter anti-inflammatory and pain-reducing medications such as short-term use of drugs like acetaminophen, ibuprofen, naproxen, aspirin (without caffeine) or other pain relievers as needed and more importantly as per the guidance on the analgesic packet or your doctors' suggestions.			X	X	X	X		X		
- Avoid excessive consumption of common over-the-counter painkillers and only use them over short periods of time as they may disturb sleep and trigger headaches.	X							X		
- Also note that although over-the-counter medications can be bought without a prescription, they can potentially cause serious side effects if used carelessly. Be sure to read the instructions on the packet and consult your doctor or pharmacist if you have any questions or anything you are worried about.					X					
- You may use a combination of analgesic and muscle relaxant in the evening.						X				
- Apply anti-inflammatory ointment once or twice a day on painful/sore muscle/joint.							X			
- Prescription medications: Your doctor may prescribe various medications for pain relief of TMD and associated symptoms. In order for these medicines to provide maximum help, it is important that you carefully follow the regulations, it is important that you ask your doctor about the possible risks, about the benefits and side effects these medications can provide, do not forget to tell your dentist which other medicines or herbal remedies you use. If your dentist has prescribed medication for your pain, do not take prescription medications without asking and getting permission from your dentist, remember to always evaluate if you get real pain relief after medication and the pain relief you get allows you to improved quality of life, this can often be measured in increased function and activity, such as can you do more of what you want to do after medication? If in doubt, discuss with your therapist.					X					
Self-monitoring:										
- Monitoring symptom patterns: Recognize your symptoms and pay attention to specific patterns of your TMD symptoms or observe aggravating factors or things that increase or decrease your symptoms to help detect both positive and negative changes. This will help you know what changes you should tell your dentist, check the progress of your treatment and be able to give conscious decision of what forms of treatment that seems to be most helpful for you.			X		X					
- There can be an indefinite number of factors contributing to TMD. Notice if there are some activities, events or moods that enhance your problem and write down them and advise us of anything that you think may be contributing.					X					X
Other leaflets' instructions:										
- If after reading the leaflet you still have any questions, telephone the practice or meet your practitioner to ask and discuss the leaflet.		X				X		X		
- Consult your physician if you do not respond to SM.								X		

References

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